

A FAN ASSEMBLY INCLUDING A SEGMENTED STATOR SWITCHED RELUCTANCE FAN MOTOR

ABSTRACT OF THE DISCLOSURE

A fan assembly includes a fan housing and a fan. A switched reluctance fan motor is mounted in an inlet of the fan housing and includes a shaft that is connected to the fan. The switched reluctance fan motor includes a stator with a plurality of circumferentially-spaced stator segment assemblies that include a stator segment core. Winding wire is wound around the stator segment core. A rotor tends to rotate relative to the stator to a rotational position that maximizes the inductance of an energized winding. A drive circuit energizes the winding wire around the stator segment assemblies based on the rotational position of the rotor. End cap assemblies are connected to opposite axial ends of the stator segment core. The end cap assemblies define an annular channel for receiving the winding wire and for preventing winding creep.